Commonwealth of Kentucky

Environmental and Public Protection Cabinet
Department for Environmental Protection
Division for Air Quality
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Frankfort, Kentucky 40601
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Title V
AIR QUALITY PERMIT
Issued under 401 KAR 52:020

Permittee Name:	**AK Steel Corporation**
Mailing Address:	**P.O. Box 191, Ashland, Kentucky 41105**
Source Name:	**AK Steel Corporation**
Mailing Address:	**Same as above**
Source Location:	**U.S. Route 23W, Ashland, Kentucky 41105-0191**
Permit Number:	**V-02-020 (Revision 2)**
Log Number:	**50109; 56476**
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County:	**Boyd**
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John S. Lyons, Director
Division for Air Quality

Revised 1/16/2001

TABLE OF CONTENTS

SECTION	PAGE	DATE OF ISSUANCE
A. PERMIT AUTHORIZATION	1	August 11, 2004
B. EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS	2	August 11, 2004
C. INSIGNIFICANT ACTIVITIES	37	August 11, 2004
D. SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS	39	August 11, 2004
E. SOURCE CONTROL EQUIPMENT OPERATING REQUIREMENTS	40	August 11, 2004
F. MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS	41	August 11, 2004
G. GENERAL PROVISIONS	44	August 11, 2004
H. ALTERNATE OPERATING SCENARIOS	50	August 11, 2004
I. COMPLIANCE SCHEDULE	50	August 11, 2004

Rev #	Permit type	Log #	Complete Date	Issuance Date	Summary of Action
----	Initial Issuance	50109	2/14/97	4/25/03	
1	Significant revision	50109	--	10/06/03	Revised due to EPA comments
2	Significant revision	56476	5/06/04	8/11/04	Addition of vacuum degasser and modified slab caster. Modified requirements for Amanda Flare.

SECTION A - PERMIT AUTHORIZATION

Pursuant to a duly submitted application the Kentucky Division for Air Quality hereby authorizes the operation of the equipment described herein in accordance with the terms and conditions of this permit. This permit has been issued under the provisions of Kentucky Revised Statutes Chapter 224 and regulations promulgated pursuant thereto.

The permittee shall not construct, reconstruct, or modify any affected facilities without first having submitted a complete application and receiving a permit for the planned activity from the permitting authority, except as provided in this permit or in 401 KAR 52:020, Title V Permits.

Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits, licenses, or approvals required by this Cabinet or any other federal, state, or local agency.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

47 & 48 (47 & 48) - Amanda Blast Furnace North and East Cast Houses, Equipped with a Flame Suppression System to Control Visible Emissions

Description:
The Amanda blast furnace has two cast houses. Both cast houses are equipped with a flame suppression system to control visible emissions. The maximum total iron production is 2,552,000 tons/12 consecutive months. The maximum natural gas usage rate is 205 million ft^3/12 consecutive months.
Construction commenced: Both cast houses were installed in 1963. The flame suppression systems were installed in 1992.

APPLICABLE REGULATIONS:

401 KAR 61:170, Existing blast furnace casthouses

1. Operating Limitations:

a. Total iron production shall not exceed 2,552,000 tons/12 consecutive months. [Self-imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]
b. Natural gas usage shall not exceed 205 million ft^3/12 consecutive months. [Self-imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]

2. Emission Limitations:

a. Visible emissions from the blast furnace casthouses shall not equal or exceed 20% opacity. [401 KAR 61:170, Section 3(1)]
b. Total particulate emissions from the north and east casthouses shall not exceed 382.8 tons/12 consecutive months. [Self-imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]
c. PM10 emissions from the north and east casthouses shall not exceed 197.8 tons/12 consecutive months. [Self-imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]
d. Total particulate and PM10 emissions from the flame suppression natural gas combustion shall not exceed 0.779 tons/12 consecutive months. [Self-imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]
e. Carbon monoxide emissions from the flame suppresstion system shall not exceed 8.61 tons/12 consecutive months. [Self-imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]
f. Nitrogen Dioxide emissions from the flame suppression system shall not exceed 10.25 tons/12 consecutive months. [Self-imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]
g. Sulfur Dioxide emissions from the flame suppression system shall not exceed 0.06 tons/12 consecutive months. [Self-imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]
h. VOC emissions from the flame suppression system shall not exceed 0.6 tons/12 consecutive months. [Self-imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]

Compliance Demonstration

Total monthly particulate and PM10 emissions from the casthouses shall be calculated using the following equation:

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

$$E = (PR)\ (EF)\ (1/2000)\ (1\text{-}eff)$$

where E = emission rate of respective pollutant in tons/month, PR = process rate of hot metal in tons/month, EF = KY EIS emission factor (particulate EF = 0.6 lbs/ton, PM10 EF = 0.31 lbs/ton), eff = 0.5 (capture efficiency).

Total monthly combustion emissions of PM10, total particulates, carbon monoxide, sulfur dioxide, VOC, and nitrogen dioxide from the flame suppression system shall be calculated using the following equation:

$$E = (NG)\ (EF)\ (1/2000)$$

where E = emission rate of respective pollutant in tons/month, NG = monthly natural gas usage rate in MMcf, EF = KY EIS emission factor in lbs/MMcf (particulate EF = 7.6, PM10 EF = 7.6, CO EF = 84, NOx EF = 100, SO2 EF = 0.6, VOC EF = 5.5).

3. **Testing Requirements:** None

4. **Specific Monitoring Requirements:**

AK Steel shall monitor the following (401 KAR 52:020, Section 10):

a. Monthly iron production from both casthouses;
b. Monthly natural gas usage from both cast casthouses;
c. Visible emissions on a weekly basis using EPA Reference Method 9.
d. AK Steel shall monitor all observations made pursuant to 401 KAR 61:170, Section 4(6).

5. **Specific Record Keeping Requirements:**

Retain records of the following for the Amanda Casthouses (401 KAR 52:020, Section 10):

a. Monthly iron production from both casthouses;
b. Monthly natural gas usage from both casthouses;
c. Weekly Method 9 opacity readings for five years;
d. All observations made pursuant to 401 KAR 61:170, Section 4(6).

6. **Specific Reporting Requirements:**

AK Steel shall report exceedances or deviations of all operating and emission limitations to the Division's Ashland Regional Office in accordance with Section F of this permit.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

03 (03) - Amanda Blast Furnace Stoves

Description:
There are three stoves, two stoves are heating and one is blasting. The primary fuel is blast furnace gas. The secondary fuel is natural gas. The maximum blast furnace gas usage rate is 44,000 million ft^3/12 consecutive months. The maximum natural gas usage rate is 1500 million ft^3/12 consecutive months.
Construction commenced: The Amanda blast furnace stoves were installed in 1963.

APPLICABLE REGULATIONS:

401 KAR 61:035, Existing process gas streams
401 KAR 61:020, Existing process operations [Particulate matter lb/hr emission limitation superceded by self-imposed limitation to preclude PSD]

1. Operating Limitations:

a. Blast furnace gas usage shall not exceed 44,000 million ft^3/12 consecutive months. [Self-imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]
b. Natural gas usage shall not exceed 1500 million ft^3/12 consecutive months. [Self-imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]

2. Emission Limitations:

a. Visible emissions shall not equal or exceed 40% opacity. [401 KAR 61:020, Section 3(1)(a)]
b. Sulfur dioxide emissions from the process gas stream shall not exceed 2.39 gr/dscf (4527.34 lbs/hr, based on 221,000 scfm flow rate through the stack). [401 KAR 61:035, Section 4]
c. AK Steel shall not allow the emissions of carbon monoxide from the process gas stream to exit unless the gases are burned at 1300°F for five-tenths (0.5) seconds or greater in a direct flame afterburner or equivalent device. [401 KAR 61:035, Section 5]
d. Hydrogen sulfide emissions shall not exceed 10 gr/dscf (165 ppm by volume) at zero percent oxygen. [401 KAR 61:035, Section 3]
e. Total particulate and PM10 emissions shall not exceed 69.5 tons/12 consecutive months. [Self-imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]
f. Carbon monoxide emissions shall not exceed 364.4 tons/12 consecutive months. [Self-imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]
g. Nitrogen dioxide emissions shall not exceed 716 tons/12 consecutive months. [Self-imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]
h. Sulfur dioxide emissions shall not exceed 1254 tons/12 consecutive months. [Self-imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]
i. VOC emissions shall not exceed 4.1 tons/12 consecutive months. [Self-imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]

Compliance Demonstration:
Monthly emissions for PM10, TSP, CO, NOx, SO2, and VOC's shall be calculated using the following equation:

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

(03) - Amanda Blast Furnace Stoves, cont.

$$E = (BFG)(EF1)(1/2000) + (NG)(EF2)(1/2000)$$

where E = pollutant emissions in tons/month, BFG = monthly blast furnace gas usage rate in MMcf, EF1 = pollutant emission factor for blast furnace gas in lbs/MMcf (TSP = 2.9, PM10 = 2.9, CO = 13.7, NOx = 23, SO2 = 57, VOC = 0), NG = monthly natural gas usage rate in MMcf, EF2 = pollutant emission factor for natural gas in lbs/MMcf (TSP = 7.6, PM10 = 7.6, CO = 84, NOx = 280, SO2 = 0.6, VOC = 5.5).

Compliance with the sulfur dioxide concentration requirement shall be demonstrated using Eq. 6-2 of 40 CFR 60, Appendix A-4. Compliance with the hydrogen sulfide concentration requirement (in gr/dscf) shall be demonstrated using Eq. 11-5 of 40 CFR 60, Appendix A-5.

3. Testing Requirements:

a. A performance test to demonstrate compliance with the sulfur dioxide emissions shall be conducted within twelve months of issuance.

4. Specific Monitoring Requirements:

AK Steel shall monitor the following (401 KAR 52:020, Section 10):

a. Monthly primary and secondary fuel usage rate;
b. The combustion temperature of the process gas stream and ensure it remains above 1300^{o}F;
c. Visible emissions on a quarterly basis using EPA Reference Method 9;
d. Sulfur dioxide emission rate in gr/dscf, as measured by EPA Reference Method 6;
e. Hydrogen sulfide emission rate in gr/dscf, as measured by EPA Reference Method 11.

5. Specific Record Keeping Requirements:

Retain records of the following for the Amanda Blast Furnace Stoves (401 KAR 52:020, Section 10):

a. Monthly primary and secondary fuel usage rate;
b. The combustion temperature of the process gas stream and ensure it remains above 1300^{o}F;
c. Sulfur dioxide emission rate in gr/dscf, as measured by EPA Reference Method 6;
d. Hydrogen sulfide emission rate in gr/dscf, as measured by EPA Reference Method 11.
e. Quarterly opacity observations for five years;

6. Specific Reporting Requirements:

AK Steel shall report exceedances or deviations of all operating and emission limitations to the Division's Ashland Regional Office in accordance with Section F of this permit.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

04 (04) - Amanda Flare

Description:
The flare is used to combust excess blast furnace gas. The maximum amount of blast furnace gas flared is 43,000 million ft^3/12 consecutive months.
Construction commenced: The Amanda blast furnace flare was installed in 1963.

APPLICABLE REGULATIONS:

401 KAR 63:015, Flares

1. **Operating Limitations:**
Blast furnace gas usage shall not exceed 43,000 million ft^3/12 consecutive months. [Self-imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]

2. **Emission Limitations:**
   a. Visible emissions shall not be greater than 20% opacity for more than three minutes in any day. [401 KAR 63:015, Section 3]
   b. Total particulate and PM10 emissions shall not exceed 62.35 tons/12 consecutive months. [Self-imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]
   c. Carbon monoxide emissions shall not exceed 294.55 tons/12 consecutive months. [Self-imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]
   d. Nitrogen dioxide emissions shall not exceed 501.14 tons/12 consecutive months. [Self-imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]
   e. Sulfur dioxide emissions shall not exceed 1224 tons/12 consecutive months. [Self-imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]

Compliance Demonstration:
Monthly emissions for each pollutant shall be calculated using the following equation:

$$E = (BFG)(EF)(1/2000)$$

where E = pollutant emissions in tons/month, BFG = monthly blast furnace gas usage rate in MMcf, EF = pollutant emission factor for blast furnace gas in lbs/MMcf (TSP = 2.9, PM10 = 2.9, CO = 13.7, NOx = 23.309, SO2 = 56.934).

3. **Testing Requirements:** None

4. **Specific Monitoring Requirements:**
AK Steel shall monitor the following (401 KAR 52:020, Section 10):
   a. The owner or operator shall install, calibrate, maintain, and operate according to the manufacturer's specifications a thermocouple to indicate the continuous presence of a flame.
   b. Visible emissions on a quarterly basis using EPA Reference Method 9.
   c. Blast furnace gas usage rates on a monthly basis.

5. **Specific Record Keeping Requirements:**
The owner or operator shall keep up to date, readily accessible continuous records of:

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

04 (04) - Amanda Flare, cont.

a. The flare pilot flame monitoring specified above in Item (a) under Specific Monitoring Requirements.
b. All periods of operation in which the pilot flame is absent.
c. Results of all Method 9 Readings.
d. Blast furnace gas usage rates.

6. SpecificReporting Requirements:

AK Steel shall report exceedances or deviations of all operating and emission limitations to the Division's Ashland Regional Office in accordance with Section F of this permit.

7. Specific Control Equipment Operating Conditions:

None

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

33 (33) - Amanda Bleeders

Description:
The Amanda bleeders act as pressure relief valves.
Construction commenced: The bleeders are part of the furnace and were installed in 1963.

APPLICABLE REGULATIONS:
401 KAR 50:055, "General Compliance Requirements"

1. **Operating Limitations:** None

2. **Emission Limitations:** None

3. **Testing Requirements:** None

4. **Specific Monitoring Requirements:** None

5. **Specific Record Keeping Requirements:**
   Retain records of the number of upsets at the Amanda blast furnace and the duration of each upset.

6. **Specific Reporting Requirements:**
   None

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

50 (50) - The Amanda Blast Furnace Slag Pit

Description:
The slag pit is where all the blast furnace slag accumulates when it is tapped out of the furnace. The 75% control efficiency is based on watering. The maximum amount of slag processed is 585,072 tons/12 consecutive months.
Construction commenced: 1963.

APPLICABLE REGULATIONS:

401 KAR 63:010, Fugitive emissions

1. Operating Limitations:

a. The amount of slag processed shall not exceed 585,072 tons/12 consecutive months. [Self-imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]

2. Emission Limitations:

a. Particulate and PM_{10} emissions shall not exceed 67.3 tons/12 consecutive months. [Self-imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]
b. The discharge of visible fugitive dust emissions beyond the lot line of the property is prohibited. [401 KAR 63:010, Section 3(2)]

Compliance Demonstration:
Monthly particulate and PM10 emissions shall be calculated using the following equation:

$$E = (S)(EF)(1\text{-}eff)(1/2000)$$

where E = pollutant emissions in tons/month, S = monthly slag processing rate in tons, EF = particulate or PM10 emission factor in lbs/ton (0.92), eff = 0.75 (control efficiency).

3. Testing Requirements: None

4. Specific Monitoring Requirements:
AK Steel shall monitor the following (401 KAR 52:020, Section 10):
Monthly slag process rate.

5. Specific Record Keeping Requirements:
Retain records of the following for the Amanda Blast Furnace Slag Pit (401 KAR 52:020, Section 10):
Monthly slag process rate.

6. Specific Reporting Requirements:
AK Steel shall report exceedances or deviations of all operating and emission limitations to the Division's Ashland Regional Office in accordance with Section F of this permit.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

26 (26) - Amanda Blast Furnace Coal Injection equipped with Four Small Baghouses

Description:
This emission point is made up of two machine points: coal drying and coal injection. The maximum coal injection rate is 350,400 tons/12 consecutive months. The maximum natural gas usage rate for the coal drier is 75.15 million ft^3/12 consecutive months.
Construction commenced: The coal dryer and coal injection system were installed in 1973.

APPLICABLE REGULATIONS:

401 KAR 61:020, Existing process operations [Particulate matter lb/hr limitation superceded by self-imposed emission limitation]

1. Operating Limitations:

a. The coal injection rate shall not exceed 350,400 tons/12 consecutive months. [Self imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]
b. The natural gas usage rate shall not exceed 75.15 million ft^3/12 consecutive months. [Self imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]

2. Emission Limitations:

a. Visible emissions shall not equal or exceed 40% opacity. [401 KAR 61:020, Section 3(1)(a)]
b. Particulate and PM_{10} emissions shall not exceed 8.7 tons/12 consecutive months. [Self imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]
c. Carbon monoxide emissions shall not exceed 3.2 tons/12 consecutive months. [Self imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]
d. Nitrogen dioxide emissions shall not exceed 3.8 tons/12 consecutive months. [Self imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]
e. Sulfur dioxide emissions shall not exceed 0.023 tons/12 consecutive months. [Self-imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]
f. VOC emissions shall not exceed 0.21 tons/12 consecutive months. [Self-imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]

Compliance Demonstration:
Monthly emissions for each pollutant shall be calculated using the following equation:

$$E = (CI)(EF1)(1\text{-}eff)(1/2000) + (NG)(EF2)(1/2000)$$

where E = pollutant emissions in tons/month, CI = coal injection rate in tons/month, EF1 = pollutant emission factor for coal injection in lbs/ton (TSP, PM10 = 4.818; CO = NOx = SO2 = VOC = 0), eff = 0.99 (control efficiency), NG = natural gas usage rate in MMcf/month, EF2 = pollutant emission factor for natural gas combustion in lbs/MMcf (TSP = 7.6, PM10 = 7.6, CO = 84, NOx = 100, SO2 = 0.6, VOC = 5.5).

3. Testing Requirements: None

4. Specific Monitoring Requirements:

AK Steel shall monitor the following (401 KAR 52:020, Section 10):
a. Monthly coal injection rate;

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

26 (26) - Amanda Blast Furnace Coal Injection equipped with Four Small Baghouses, cont.

b. Monthly natural gas usage rate;
c. Visible emissions on a monthly basis using EPA Reference Method 9;

5. Specific Record Keeping Requirements:
Retain records of the following for the Amanda Blast Furnace Coal Injection (401 KAR 52:020, Section 10):
a. Monthly amount of coal injected;
b. Monthly natural gas usage;
c. Monthly opacity readings for five years.

6. Specific Reporting Requirements:
AK Steel shall report exceedances or deviations of all operating and emission limitations to the Division's Ashland Regional Office in accordance with Section F of this permit.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

86 & 87 (86 & 87) - B.O. Shop Blowing

Description:
There are two vessels that require oxygen blowing to refine the molten metal to steel. The emissions resulting from the oxygen blowing are captured using a very effective hooding system and are sent to a wet venturi scrubber and then to a flare to combust all the generated carbon monoxide emissions. The maximum steel process rate from both vessels is 2,776,000 tons/12 consecutive months.
Construction commenced: The steel making vessels were installed in 1963. The emission controls consisting of the wet venturi scrubber and flare for each vessel were installed in 1992.

APPLICABLE REGULATIONS:

401 KAR 61:080, Steel plants using existing basic oxygen process furnaces

1. Operating Limitations:

a. The steel process rate shall not exceed 2,776,000 tons/12 consecutive months. [Self imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]

2. Emission Limitations:

a. Visible emissions from the wet scrubbers shall not equal or exceed 20% opacity. [401 KAR 61:080, Section 3(3)]
b. As measured during the initial or main oxygen blowing period, AK Steel shall not cause any gases to exit the venturi scrubbers which have particulate concentrations in excess of 0.030 gr/dscf. [401 KAR 61:080, Section 3(1)]
c. PM10 emissions shall not exceed 4.84 tons/12 consecutive months. [Self imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]
d. Total particulate emissions shall not exceed 10.3 tons/12 consecutive months. [Self imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]
e. Carbon monoxide emissions shall not exceed 1081.5 tons/12 consecutive months. [Self imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]

Compliance Demonstration:
Monthly emissions for each pollutant shall be calculated using the following equation:

$$E = (PR)(EF)(1/2000)$$

where E = pollutant emissions in tons/month, PR = steel process rate in tons/month, EF = pollutant emission factor for oxygen blowing in lbs/ton (TSP = 0.007425, PM10 = 0.00349). The EF for CO varies from year to year. CO emissions for compliance purposes shall be calculated using the EF as determined in the previous calendar year's EIS report.

3. Testing Requirements:

Performance tests to demonstrate compliance with the particulate matter emissions shall be conducted within twelve months of issuance.

4. Specific Monitoring Requirements:

AK Steel shall monitor the following (401 KAR 52:020, Section 10):

a. Monthly steel production rate from both vessels;

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

86 & 87 (86 & 87) - B.O. Shop Blowing, cont.

b. Visible emissions on a weekly basis using U.S. EPA Reference Method 9;

5. Specific Record Keeping Requirements:

Retain records of the following for the B.O. Shop Blowing (401 KAR 52:020, Section 10):

a. Monthly steel production rate from both vessels;
b. Weekly opacity readings for five years.

6. Specific Reporting Requirements:

AK Steel shall report exceedances or deviations of all operating and emission limitations to the Division's Ashland Regional Office in accordance with Section F of this permit.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

88 (88) - B. O. Shop Fugitives

Description:
This emission point includes emissions resulting from charging, tapping, desulfurizing, hot metal transfer, slag skimming, and lime handling. All these emissions are conveyed to a baghouse. The maximum steel production is 2,776,000 tons/12 consecutive months.
Construction commenced: The steel making vessels were installed in 1963. The baghouse which control these emissions was installed in 1992.

APPLICABLE REGULATIONS:

401 KAR 61:080, Steel plants using existing basic oxygen process furnaces

1. Operating Limitations:

a. The steel process rate shall not exceed 2,776,000 tons/12 consecutive months. [Self imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]

2. Emission Limitations:

a. Visible emissions from the baghouse exhaust shall not equal or exceed 20% opacity. [401 KAR 61:080, Section 3(3)]
b. AK Steel shall not cause any gases to exit the baghouse which has a particulate concentration in excess of 0.010 gr/dscf. [401 KAR 61:080, Section 3(2)]
c. Visible emissions from any dust handling equipment shall not equal or exceed 10% opacity. [401 KAR 61:080, Section 3 (5)]
d. Total particulate emissions shall not exceed 41.54 tons/12 consecutive months. [Self-imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]
e. PM10 emissions shall not exceed 18.91 tons/12 consecutive months. [Self-imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]

Compliance Demonstration:

Monthly PM10 and total particulate emissions shall be determined from the following equation:

$$E = (PR)(EF)(1-eff)(1/2000)$$

where E = monthly pollutant emissions in tons/month, PR = steel process rate in tons steel/month, EF = pollutant emission factor in lbs/ton. These emission factors vary slightly from year to year. Emissions shall be calculated using emission factors as determined in the previous calendar year's EIS report.

3. Testing Requirements:

Performance tests to demonstrate compliance with the particulate matter emissions shall be conducted within twelve months of issuance.

4. Specific Monitoring Requirements:

AK Steel shall monitor the following (401 KAR 52:020, Section 10):
a. Monthly steel process rate;
b. Visible emissions on a weekly basis using U.S. EPA Reference Method 9;
c. Particulate concentrations on a weekly basis using EPA Reference Method 5;

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

88 (88) - B. O. Shop Fugitives (cont.)

5. Specific Record Keeping Requirements:

Retain records of the following:

a. Monthly steel process rate;
b. Weekly opacity readings for five years;

6. Specific Reporting Requirements:

AK Steel shall report exceedances or deviations of all operating and emission limitations to the Division's Ashland Regional Office in accordance with Section F of this permit.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

85 (85) - B.O. Shop Roof Monitor

Description:
This emission point includes emissions that are not captured by the venturi scrubbers during the oxygen blowing period in addition to the fugitives which were not captured by the baghouse that controls fugitive emissions from the B.O. Shop. The maximum total steel production rate is 2,776,000 tons/12 consecutive months.
Construction commenced: The building has been in existence since 1963.

APPLICABLE REGULATIONS:

401 KAR 61:080, Steel plants using existing basic oxygen process furnaces

1. Operating Limitations:

a. The steel process rate shall not exceed 2,776,000 tons/12 consecutive months. [Self imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]

2. Emission Limitations:

a. Visible emissions from the roof monitors shall not equal or exceed 20% opacity for more than eleven (11) times as observed at fifteen (15) second intervals over a period of any 60 consecutive minutes. [401 KAR 61:080, Section 3(4)]
b. Total particulate emissions from the B.O. Roof Monitor shall not exceed 312.6 tons/12 consecutive months. [Self imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]
c. PM_{10} emissions from the B.O. Roof Monitor shall not exceed 173.6 tons/12 consecutive months. [Self imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]

Compliance Demonstration:
Monthly PM10 and total particulate emissions shall be determined from the following equation:

$$E = (PR)(EF)(1/2000)$$

where E = monthly pollutant emissions in tons/month, PR = steel process rate in tons steel/month, EF = pollutant emission factor in lbs/ton (TSP = 0.2252, PM10 = 0.1251).

3. Testing Requirements: None

4. Specific Monitoring Requirements:

AK Steel shall monitor the following (401 KAR 52:020, Section 10):
a. Visible emissions on a weekly basis using U.S. EPA Reference Method 9;
b. Monthly steel process rate;

5. Specific Record Keeping Requirements:

Retain records of the following:

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

85 (85) - B.O. Shop Roof Monitor (cont.)

a. Weekly opacity readings for five years;
b. Monthly steel process rate.

6. Specific Reporting Requirements:

AK Steel shall report exceedances or deviations of all operating and emission limitations to the Division's Ashland Regional Office in accordance with Section F of this permit.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

51 (51) - B.O. Shop Slag Processing Area

Description:
A large pit where the B.O. Shop slag gets dumped. It also includes the kish pot station. The maximum slag processing rate is 383,334 tons/12 consecutive months.
Construction commenced: The pit has been there since 1963.

APPLICABLE REGULATIONS:

401 KAR 63:010, Fugitive emissions

1. **Operating Limitations:**
   a. The slag processing rate shall not exceed 383,334 tons/12 consecutive months. [Self imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]

2. **Emission Limitations:**
   a. Particulate and PM_{10} emissions shall not exceed 44.1 tons/12 consecutive months. [Self imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]
   b. The discharge of visible fugitive dust emissions beyond the lot line of the property is prohibited. [401 KAR 63:010, Section 3(2)]

   Compliance Demonstration:
   Monthly PM10 and total particulate emissions shall be determined from the following equation:

   $$E = (S)(EF)(1\text{-}eff)(1/2000)$$

   where E = monthly pollutant emissions in tons/month, S = slag processing rate in tons slag/month, EF = pollutant emission factor in lbs/ton (TSP = 0.92, PM10 = 0.92), eff = 0.75 (control efficiency).

3. **Testing Requirements:** None

4. **Specific Monitoring Requirements:**
   AK Steel shall monitor the following (401 KAR 52:020, Section 10):
   a. Monthly amount of slag processed;
   b. Hours of operation per month.

5. **Specific Record Keeping Requirements:**
   Retain records of the following for the B.O. Shop Slag Dump (401 KAR 52:020, Section 10):
   Monthly amount of slag processed.

6. **Specific Reporting Requirements:**
   AK Steel shall report exceedances or deviations of all operating and emission limitations to the Division's Ashland Regional Office in accordance with Section F of this permit.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

38 (38) - Ladle Refiner

Description:
The Ladle Refiner is a steel purification process equipped with a baghouse. The maximum total steel charge to the ladle refiner is 2,776,000 tons/12 consecutive months.
Construction commenced: The Ladle Refiner and the baghouse were installed in 1983.

APPLICABLE REGULATIONS:
401 KAR 59:010, New process operations

1. **Operating Limitations:**
   a. The steel process rate shall not exceed 2,776,000 tons/12 consecutive months. [Self imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]

2. **Emission Limitations:**
   a. Visible emissions shall not equal or exceed 20% opacity. [401 KAR 59:010, Section 3(1)(a)]
   b. Particulate and PM_{10} emissions from the Ladle Refiner shall not exceed 16.6 tons/12 consecutive months. [Self imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]

   Compliance Demonstration:
   Monthly PM10 and total particulate emissions shall be determined from the following equation:

   $$E = (PR)(EF)(1-eff)(1/2000)$$

   where E = monthly pollutant emissions in tons/month, PR = steel process rate in tons steel/month, EF = pollutant emission factor in lbs/ton (TSP = 0.08, PM10 = 0.08), eff = 0.85 (control efficiency).

3. **Testing Requirements:**
   AK Steel shall conduct performance testing for particulate matter within twelve months of issuance of this permit to demonstrate compliance with the emission limitations.

4. **Specific Monitoring Requirements:**
   AK Steel shall monitor the following (401 KAR 52:020, Section 10):
   a. Visible emissions on a monthly basis using U.S. EPA Reference Method 9;
   b. Monthly steel charged to the ladle refiner;

5. **Specific Record Keeping Requirements**:
   Retain records of the following for the Ladle Refiner (401 KAR 52:020, Section 10):
   a. Monthly opacity observations for five years;
   b. Monthly and annual steel charged to the ladle refiner;

6. **Specific Reporting Requirements:**
   AK Steel shall report exceedances or deviations of all operating and emission limitations to the Division's Ashland Regional Office in accordance with Section F of this permit.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

90 (90) - Emergency Argon Stirring

Description:
This is a backup process to the ladle refiner. The maximum total steel processed is 194,400 tons/12 consecutive months.
Construction commenced: The emergency argon stirring station was installed in 1992.

APPLICABLE REGULATIONS:

401 KAR 59:010, New process operations

1. **Operating Limitations:**
   a. The steel process rate shall not exceed 194,400 tons/12 consecutive months. [Self imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]

2. **Emission Limitations:**
   a. Visible emissions shall not equal or exceed 20% opacity [401 KAR 59:010, Section 3(1)(a)].
   b. Particulate and PM_{10} emissions from Emergency Argon Stirring shall not exceed 2.43 tons/12 consecutive months. [Self imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]

   Compliance Demonstration:
   Monthly PM10 and total particulate emissions shall be determined by the following equation:

   $$E = (PR)(EF)(1-eff)(1/2000)$$

   where E = pollutant emissions in tons/month, PR = steel process rate in tons/month, EF = pollutant emission factor in lbs/ton (PM10 = 0.1, TSP = 0.1), eff = 0.75 (control efficiency).

3. **Testing Requirements:** None

4. **Specific Monitoring Requirements:**
   AK Steel shall monitor the following (401 KAR 52:020, Section 10):
   a. Visible emissions on a quarterly basis using U.S. EPA Reference Method 9;
   b. Monthly steel process rate;

5. **Specific Record Keeping Requirements:**
   Retain records of the following for the Emergency Argon Stirring (401 KAR 52:020, Section 10):
   a. Quarterly visible emission observations for five years;
   b. Monthly steel process rate;

6. **Specific Reporting Requirements:**
   AK Steel shall report exceedances or deviations of all operating and emission limitations to the Division's Ashland Regional Office in accordance with Section F of this permit.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

52, 53, 54, and 55 (52, 53, 54, 55) - Boilers No. 5, 6, 7, and 13

Description:
Steam boilers, manufactured by Babcock-Wilcox. Primary fuel is blast furnace gas. Backup fuels are No. 6 fuel oil and natural gas. Maximum rated capacity of Boilers No. 5, 6, and 7 is 245 MMBTU/hr. Boiler No. 13 is slightly smaller at 244.4 MMBTU/hr.
Construction commenced: Boilers No. 5, 6, and 7 were installed in 1962. Boiler No. 13 was installed in 1978.

APPLICABLE REGULATIONS:

401 KAR 59:015, New indirect heat exchangers
401 KAR 61:015, Existing indirect heat exchangers

1. Operating Limitations:

None

2. Emission Limitations:

a. Particulate matter emissions from boilers 5, 6, and 7 shall not exceed 0.19 lbs/MMBTU each. [401 KAR 61:015, Section 4(1)]
b. Visible emissions from boilers 5, 6, and 7 shall not equal or exceed 20% opacity, or shall not equal or exceed 40% opacity for more than six (6) consecutive minutes in any sixty (60) consecutive minutes during cleaning the fire box or blowing soot. [401 KAR 61:015 Section 4(2)]
c. Sulfur dioxide emissions from boilers 5, 6, and 7 shall not exceed 4.0 lbs/MMBTU each. [401 KAR 61:015, Section 5(1)]
d. Particulate matter emissions from boiler 13 shall not exceed 0.10 lbs/MMBTU each [401 KAR 59:015, Section 4(1)]
e. Visible emissions from boiler 13 shall not equal or exceed 20% opacity, or shall not equal or exceed 40% opacity for more than six (6) consecutive minutes in any sixty (60) consecutive minutes during cleaning the fire box or blowing soot. [401 KAR 59:015, Section 4(2)]
f. Sulfur dioxide emissions from boiler 13 shall not exceed 0.8 lbs/MMBTU. [401 KAR 59:015, Section 5(1)]

3. Testing Requirements:

AK Steel shall conduct performance testing within twelve months of issuance of this permit to demonstrate compliance with all emission limitations.

4. Specific Monitoring Requirements:

AK Steel shall monitor the following (401 KAR 52:020, Section 10):
a. The amount of each fuel burned on a monthly basis;
b. Hours of operation of the indirect heat exchanger on a monthly basis;
c. Compliance with the particulate limit shall be demonstrated by calculating particulate emissions using fuel usage rate, fuel analysis, and emission factor information;
d. Compliance with the sulfur dioxide limit shall be demonstrated by calculating sulfur dioxide emissions using fuel usage rate, fuel analysis, and emission factor information.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

52, 53, 54, and 55 (52, 53, 54, 55) - Boilers No. 5, 6, 7, and 13, cont.

5. Specific Record Keeping Requirements:

Retain records of the following for the Boilers No. 5, 6, 7 and 13 (401 KAR 52:020, Section 10):

a. The amount of each fuel burned on a monthly basis;
b. Hours of operation of the indirect heat exchanger on a monthly basis.

6. Specific Reporting Requirements:

AK Steel shall report exceedances or deviations of all operating and emission limitations to the Division's Ashland Regional Office in accordance with Section F of this permit.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

56 (56) - 170.5 MMBTU/hr Package Boiler

Description:
A 170.5 MMBTU/hr natural gas package boiler. No. 6 fuel oil used as backup fuel.
Construction commenced: The package boiler was installed in 1997.

APPLICABLE REGULATIONS:

401 KAR 59:015, New indirect heat exhangers

1. Operating Limitations:

The permittee shall only operate this affected facility at any time when one of boilers 5, 6,
7, or 13 is out of service.

2. Emission Limitations:

a. Particulate matter emissions shall not exceed 0.10 lbs/MMBTU. [401 KAR 59:015, Section 4(1)]
b. Visible emissions shall not equal or exceed 20% opacity, except during cleaning the fire box or blowing soot, at which time visible emissions shall not equal or exceed 40% opacity for more than six (6) consecutive minutes in any sixty (60) consecutive minutes. [KAR 59:015, Section 4(2)]
c. Sulfur dioxide emissions shall not exceed 0.8 lbs/MMBTU. [401 KAR 59:015, Section 5(1)]

3. Testing Requirements: None

4. Specific Monitoring Requirements:

AK Steel shall monitor the following (401 KAR 52:020, Section 10):
a. The amount of each fuel burned on a monthly basis;
b. Hours of operation of the indirect heat exchanger on a monthly basis;
c. Compliance with the particulate limit shall be demonstrated by calculating particulate emissions using fuel usage rate, fuel analysis, and emission factor information;
d. Compliance with the sulfur dioxide limit shall be demonstrated by calculating sulfur dioxide emissions using fuel usage rate, fuel analysis, and emission factor information;
e. Opacity observations shall be taken for each day that No. 6 fuel oil is burned using EPA Reference Method 9.

5. Specific Record Keeping Requirements:

Retain records of the following for the Package Boiler (401 KAR 52:020, Section 10):
a. The amount of each fuel burned on a monthly basis;
b. Hours of operation of the indirect heat exchanger on a monthly basis;
c. Opacity observations for each day that they are monitored, for a period of five years.

6. Specific Reporting Requirements:

AK Steel shall report exceedances or deviations of all operating and emission limitations to the Division's Ashland Regional Office in accordance with Section F of this permit.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

102 (102) - 1-A Down river Horizontal Ladle Preheater with 15.1 MMBTU/hr burner.
103 (103) - 1-B Down river Horizontal Ladle Preheater with 15.1 MMBTU/hr burner.
104 (104) - 2-A Down river Vertical Ladle Preheater with 15 MMBTU/hr burner.
105 (105) - 2-B Down river Vertical Ladle Preheater with 15 MMBTU/hr burner.
106 (106) - 3-A Down river Vertical Ladle Preheater with 7.26 MMBTU/hr burner.
107 (107) - 3-B Down river Vertical Ladle Preheater with 7.26 MMBTU/hr burner.

Description:
The ladle heaters are used to heat the ladles before the molten metal is poured into them.
All preheaters combust natural gas only.
Construction commenced: 1968

APPLICABLE REGULATIONS: None

1. **Operating Limitations:** None

2. **Emission Limitations:** None

3. **Testing Requirements:** None

4. **Specific Monitoring Requirements:**
   AK Steel shall monitor the following (401 KAR 52:020, Section 10):
   Annual natural gas fuel usage rate for each source.

5. **Specific Record Keeping Requirements:**
   Retain records of the following for the six ladle preheaters (401 KAR 52:020, Section 10):
   Annual natural gas fuel usage rate for each source.

6. **Specific Reporting Requirements:**
   AK Steel shall report exceedances or deviations of all operating and emission limitations to the Division's Ashland Regional Office in accordance with Section F of this permit.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

100 (100) - No. 3 Coating Line Direct Fire Heater and
101 (101) - No. 3 Coating Line Radiant Tube Heater

Description:
Both heaters are continuous strip annealing furnaces made by Selas Furnace Company.
The direct fire heater is equipped with 56 MMBTU/hr of burner capacity.
The direct fire radiant tube heater is equipped with 60 MMBTU/hr of burner capacity.
Construction commenced: Both units were installed in 1968.

APPLICABLE REGULATIONS:

None

1. **Operating Limitations:** None

2. **Emission Limitations:**
   None

3. **Testing Requirements:** None

4. **Specific Monitoring Requirements:**
   None

5. **Specific Record Keeping Requirements:**
   None

6. **Specific Reporting Requirements:**
   None

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

108 (108) - Roads and Parking Lots

Description:
These are all the roads and parking lots at AK Steel West Works.
Construction commenced: The roads and parking lots have been there since the plant's inception, 1920's.

APPLICABLE REGULATIONS:

401 KAR 63:010, Fugitive emissions

1. **Operating Limitations:** None

2. **Emission Limitations:**
The discharge of visible fugitive dust emissions beyond the lot line of the property is prohibited. [401 KAR 63:010, Section 3(2)]

3. **Testing Requirements:** None

4. **Specific Monitoring Requirements:** None

5. **Specific Record Keeping Requirements:**
Records of the times the roads are watered shall be maintained at the source.

6. **Specific Reporting Requirements:**
AK Steel shall report exceedances or deviations of all operating and emission limitations to the Division's Ashland Regional Office in accordance with Section F of this permit.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

109 (109) - Unloading Raw Materials and
110 (110) - Stockpiles

Description:
Both emission units are responsible for generating fugitive emissions.
Construction commenced: 1920's.

APPLICABLE REGULATIONS:

401 KAR 63:010, Fugitive emissions

1. **Operating Limitations:**
   AK Steel shall spray water or other suppressants, weather conditions permitting, at locations throughout the material handling and storage system when needed as determined by observations.

2. **Emission Limitations:**
   The discharge of visible fugitive dust emissions beyond the lot line of the property is prohibited. [401 KAR 63:010, Section 3(2)]

3. **Testing Requirements:** None

4. **Specific Monitoring Requirements:** None

5. **Specific Record keeping Requirements:** None

6. **Specific Reporting Requirements:**
   AK Steel shall report exceedances or deviations of all operating and emission limitations to the Division's Ashland Regional Office in accordance with Section F of this permit.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

Vacuum Degasser

111 (111) Flare

Description:
The new Vacuum Degasser is a process in which molten steel from the BOF is circulated through a refractory lined vessel that is placed under a vacuum. Carbon is removed from the steel as carbon monoxide and carbon dioxide. Emission points include a flare, cooling tower, two preheat stations, and an alloy handling system associated with the degasser itself. The requirements for the flare are included as follows.
Construction to commence: 2004

APPLICABLE REGULATIONS:

401 KAR 63:015, Flares

1. **Operating Limitations:**
   a. Natural gas usage shall not exceed 7.3 million ft^3/12 consecutive months. [Self-imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]
   b. The steel process rate shall not exceed 2,776,000 tons/12 consecutive months. [Self imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]

2. **Emission Limitations:**
   a. Visible emissions shall not be greater than 20% opacity for more than three minutes in any day. [401 KAR 63:015, Section 3]
   b. Total particulate and PM_{10} emissions shall not exceed 2.06 tons/12 consecutive months. [Self-imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]
   c. Sulfur dioxide emissions shall not exceed 0.0022 tons/12 consecutive months. [Self-imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]
   d. Nitrogen dioxide emissions shall not exceed 0.0002 tons/12 consecutive months. [Self imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]
   e. Carbon monoxide emissions shall not exceed 18.14 tons/12 consecutive months. [Self-imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]
   f. Volatile organic compounds emissions shall not exceed 0.02 tons/12 consecutive months. [Self-imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]

Compliance Demonstration:
Monthly emissions for each pollutant shall be calculated using the following equation:

$$E = (NG)(EF_1)(1/2000) + (STEEL)(EF_2)(1/2000)$$

where E = pollutant emissions in tons/12 month, NG = monthly natural gas usage rate in MMcf, EF_1 = pollutant emission factor for natural gas in lbs/MMcf (TSP = 1.9, PM_{10} = 1.9, SO_2 = 0.6, NOx = 0.0641, CO = 0.5496, VOC = 5.5), STEEL = monthly vacuum degasser production, EF_2 =
pollutant emission factor for PM and PM10 in the condenser cooling water and CO in the process gas stream (TSP = 74 g/tonne,PM10 = 74 g/tonne, CO = 0.013 lbs/ton steel).

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

111 (111) Flare, cont.

3. Testing Requirements:
None

4. Specific Monitoring Requirements:
AK Steel shall monitor the following (401 KAR 52:020, Section 10):

a. The owner or operator shall install, calibrate, maintain, and operate according to the manufacturer's specifications a thermocouple to indicate the continuous presence of a flame.
b. Visible emissions on a quarterly basis using EPA Reference Method 9.
c. Natural gas usage rates on a monthly basis.

5. Specific Record Keeping Requirements:
The owner or operator shall keep up to date, readily accessible continuous records of:

a. The flare pilot flame monitoring specified above in Item (a) under Specific Monitoring Requirements.
b. All periods of operation in which the pilot flame is absent.
c. Results of all Method 9 Readings.
d. Natural gas usage rates.

6. SpecificReporting Requirements:
AK Steel shall report exceedances or deviations of all operating and emission limitations to the Division's Ashland Regional Office in accordance with Section F of this permit.

7. Specific Control Equipment Operating Conditions:
None

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Vacuum Degasser

112 (112) Cooling Tower

Description:
The new Vacuum Degasser is a process in which molten steel from the BOF is circulated through a refractory lined vessel that is placed under a vacuum. Carbon is removed from the steel as carbon monoxide and carbon dioxide. Emission points include a flare, cooling tower, two preheat stations, and an alloy handling system associated with the degasser itself. The requirements for the cooling tower are included as follows.
Construction to commence: 2004

APPLICABLE REGULATIONS:
401 KAR 59:010, New process operations

1. **Operating Limitations:**
   None

2. **Emission Limitations:**
   a. Total particulate and PM_{10} emissions shall not exceed 0.99 tons/12 consecutive months. [Self-imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]
   b. Carbon monoxide emissions shall not exceed 13.88 tons/12 consecutive months. [Self-imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]
   c. Visible emissions shall not equal or exceed 20% opacity. [401 KAR 59:010, Section 3(1)(a)]

Compliance Demonstration:
Monthly emissions for total particulate and PM_{10} shall be calculated using the following equation:

$$E1 = (4500)(8.34)(60)(EF_1)(1000)(0.00010)(1/2000)(1/1,000,000)$$

where E1 =total particulate and PM_{10} emissions in tons/month, 4500 = water flow rate in gallons per minute, 8.34 = pounds per gallon for water, 60= minutes per hour, EF_1 = hours per month, 1000 = ppm total dissolved solids in water, 0.00010 = water drift rate, 2000 = pounds per ton, 1,000,000 = ppm/part.

Monthly emissions for carbon monoxide shall be calculated using the following equation:

$$E2 = (STEEL)(EF_2)(1/2000)$$

where E2 = carbon monoxide emissions in tons/month, STEEL = monthly vacuum degasser production, EF_2 = 0.01 lbs/ton emission factor

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

112 (112) Cooling Tower, cont.

3. Testing Requirements:
None

4. Specific Monitoring Requirements:
AK Steel shall monitor the following (401 KAR 52:020, Section 10):
Visible emissions on a quarterly basis using U.S. EPA Reference Method 9.

5. Specific Record Keeping Requirements:
Retain records of the following (401 KAR 52:020, Section 10):
Quarterly opacity readings for five years.

6. Specific Reporting Requirements:
AK Steel shall report exceedances or deviations of all operating and emission limitations to the Division's Ashland Regional Office in accordance with Section F of this permit.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Vacuum Degasser

113 & 114 (113 & 114) Preheat Stations

Description:
The new Vacuum Degasser is a process in which molten steel from the BOF is circulated through a refractory lined vessel that is placed under a vacuum. Carbon is removed from the steel as carbon monoxide and carbon dioxide. Emission points include a flare, cooling tower, two preheat stations, and an alloy handling system associated with the degasser itself. The requirements for the two preheat stations are included as follows.
Construction to commence: 2004

APPLICABLE REGULATIONS:
401 KAR 59:010, New process operations

1. **Operating Limitations:**
   The natural gas usage rate for preheat stations shall not exceed 105.1 million ft^3/12 consecutive months. [Self imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]

2. **Emission Limitations:**
   a. Visible emissions shall not equal or exceed 20% opacity. [401 KAR 59:010, Section 3(1)(a)]
   b. Total particulate and PM_{10} emissions shall not exceed 0.10 tons/12 consecutive months. [Self-imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]
   c. Sulfur dioxide emissions shall not exceed 0.03 tons/12 consecutive months. [Self-imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]
   d. Nitrogen dioxide emissions shall not exceed 5.26 tons/12 consecutive months. [Self-imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]
   e. Carbon monoxide emissions shall not exceed 4.42 tons/12 consecutive months. [Self-imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]
   f. Volatile organic compounds emissions shall not exceed 0.29 tons/12 consecutive months. [Self-imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]

   Compliance Demonstration:
   Monthly emissions for each pollutant shall be calculated using the following equation:

$$E = (NG)(EF)(1/2000)$$

   where E = pollutant emissions in tons/month, NG = monthly natural gas usage rate in MMcf, EF = pollutant emission factor for natural gas in lbs/MMcf (TSP = 1.9, PM_{10} = 1.9, SO_2 = 0.6, NOx = 100, CO = 84, VOC = 5.5).

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

113 & 114 (113 & 114) Preheat Stations, cont.

3. Testing Requirements:
None

4. Specific Monitoring Requirements:
AK Steel shall monitor the monthly natural gas usage (401 KAR 52:020, Section 10).

5. Specific Record Keeping Requirements:
AK Steel shall retain records of the monthly natural gas usage for the Preheater Stations (401 KAR 52:020, Section 10).

6. Specific Reporting Requirements:
AK Steel shall report exceedances or deviations of all operating and emission limitations to the Division's Ashland Regional Office in accordance with Section F of this permit.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Vacuum Degasser

115 (115) Alloy Transfer System & Vacuum Degasser

Description:
The new Vacuum Degasser is a process in which molten steel from the BOF is circulated through a refractory lined vessel that is placed under a vacuum. Carbon is removed from the steel as carbon monoxide and carbon dioxide. Emission points include a flare, cooling tower, two preheat stations, and an alloy handling system associated with the degasser itself. The requirements for the alloy handling system and degasser itself are included as follows.
Construction to commence: 2004

APPLICABLE REGULATIONS:
401 KAR 59:010, New process operations

1. **Operating Limitations:**
None

2. **Emission Limitations:**
a. Visible emissions shall not equal or exceed 20% opacity. [401 KAR 59:010, Section 3(1)(a)]
b. Total particulate and PM_{10} emissions shall not exceed 2.92 tons/12 consecutive months. [Self-imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]

Compliance Demonstration:
Compliance with the particulate emission limitation is assumed through proper operation of the baghouse.

3. **Testing Requirements:** None

4. **Specific Monitoring Requirements:**
AK Steel shall monitor the following (401 KAR 52:020, Section 10):
Visible emissions on a quarterly basis using U.S. EPA Reference Method 9.

5. **Specific Record Keeping Requirements:**
Retain records of the following (401 KAR 52:020, Section 10):
Quarterly opacity readings for five years.

6. **Specific Reporting Requirements:**
AK Steel shall report exceedances or deviations of all operating and emission limitations to the Division's Ashland Regional Office in accordance with Section F of this permit.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

89 (89) Continuous Slab Caster

Description:
The continuous slab caster is made up of three machine points: the tundish station, the combustion of natural gas to keep the tundish hot, and the torch cutting process. A tundish is a big metal container which holds molten steel.
The building which houses all three operations acts to control some of the particulate emissions resulting from the tundish station. The torch cutting process is located in a certain area of the building which enables the building to catch 95% of the particulate matter generated. The building capture of particulate matter resulting from the tundish station was assumed to be 75%. The maximum total steel cast is 2,720,000 tons/12 consecutive months. The maximum natural gas usage rate is 51.53 million ft^3/12 consecutive months. The maximum oxygen usage rate for the torch cutter is 92 million ft^3/12 consecutive months.
Construction commenced: 1990

APPLICABLE REGULATIONS:
401 KAR 59:010, New process operations

2. Operating Limitations:

a. The total amount of steel cast shall not exceed 2,720,000 tons/12 consecutive months. [Self imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]
b. The natural gas usage rate for the tundish station shall not exceed 51.53 million ft^3/12 consecutive months. [Self imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]
c. The oxygen usage rate for the torch cutter shall not exceed 92 million ft^3/12 consecutive months. [Self imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]

2. Emission Limitations:

a. Visible emissions shall not equal or exceed 20% opacity [401 KAR 59:010, Section 3(1)(a)].
b. Total particulate emissions from the tundish station shall not exceed 23.8 tons/12 consecutive months. [Self imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]
c. PM10 emissions from the tundish station shall not exceed 17.85 tons/12 consecutive months. [Self imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]
d. Total particulate and PM10 emissions from the torch cutting process shall not exceed 2.05 tons/12 consecutive months [Self imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]
e. VOC emissions shall not exceed 2.7 tons/12 consecutive months. [Self-imposed to preclude 401 KAR 51:017, Prevention of Significant Deterioration]

Compliance Demonstration:
Monthly PM10 and total particulate emissions for the tundish station shall be determined from the following equation:

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

89 (89) Continuous Slab Caster, cont.

$$E = (PR)(EF)(1\text{-}eff)(1/2000)$$

where E = monthly pollutant emissions in tons/month, PR = steel process rate in tons steel/month, EF = pollutant emission factor in lbs/ton (TSP = 0.07, PM10 = 0.0525, VOC = 0.002), eff = control efficiency (TSP = PM10 = 0.75; VOC = 0).

Monthly PM10 and total particulate emissions for the torch cutting shall be determined from the following equation:

$$E = (O)(EF)(1\text{-}eff)(1/2000)$$

where E = monthly pollutant emissions in tons/month, O = oxygen usage rate in MMcf/month, EF = pollutant emission factor in lbs/MMcf (PM10 = 891.02, TSP = 891.02), eff = 0.95 (control efficiency)

3. Testing Requirements: None

4. Specific Monitoring Requirements:

AK Steel shall monitor the following (401 KAR 52:020, Section 10):

a. Visible emissions on a quarterly basis using U.S. EPA Reference Method 9;
b. Monthly tons steel cast rate;
c. Monthly oxygen usage;
d. Monthly natural gas usage.

5. Specific Record Keeping Requirements:

Retain records of the following for the Continuous Slab Caster (401 KAR 52:020, Section 10):

a. Monthly tons steel cast;
b. Monthly natural gas usage;
c. Monthly oxygen usage;
d. Quarterly opacity readings for five years.

6. Specific Reporting Requirements:

AK Steel shall report exceedances or deviations of all operating and emission limitations to the Division's Ashland Regional Office in accordance with Section F of this permit.

SECTION C - INSIGNIFICANT ACTIVITIES

The following listed activities have been determined to be insignificant activities for this source pursuant to Regulation 401 KAR 52:020, Section 5(2). While these activities are designated as insignificant the permittee must comply with the applicable regulation and some minimal level of periodic monitoring may be necessary.

Description	Regulation
1. Bellefonte Boiler House	
4500 gal 15% sodium hypochlorite storage tank	None
3000 gal Betz DT-38 Tank	None
3500 gal Nalco 7215 Tank	None
4000 gal Nalco 7204T Tank #1	None
4000 gal Nalco 7204T Tank #2	None
2. Waste Oil Treatment	
20,000 gal waste oil/water separator #1	None
20,000 gal waste oil/water separator #2	None
10,000 gal mix tank #1	None
10,000 gal mix tank #2	None
10,000 gal mix tank #3	None
6000 gal waste oil storage tank	None
3500 gal Betz ULP644 tank	None
12,500 gal tank	None
3. Transportation Department	
6000 gal dust suppressant tank	None
3-350 gal each lube/hydraulic oil tanks	None
4. Main Water Clarification Plant	
3-350 gal each lube/hydraulic oil tanks	None
4000 gal each lube/hydraulic oil tands	None
3-350 gal each lube/hydraulic oil tanks	None
5. Caster Water Treatment	
250 gal sulfuric acid tank	None
6. Blast Furnace Department	
350 gal lube motor oil tank	None
350 gal hydraulic oil tank	None
Amanda Furnace Relief Valve	401 KAR 59:010

SECTION C - INSIGNIFICANT ACTIVITIES, CONT.

7. Basic Oxygen Furnace Caster	
6-350 gal each lube/hydraulic oil tanks	401 KAR 59:010
2-30 MMBTU/hr Caster Tundish preheaters	401 KAR 59:010
8. No. 3 Coating Line	
Alkaline precleaner exhaust #1	401 KAR 59:010
Alkaline precleaner exhaust #2	401 KAR 59:010
Chemical treatment section	401 KAR 59:010
Skin pass mill	401 KAR 59:010
14,000 gal Bonderite Repl B Storage Tank	401 KAR 59:010
14,000 gal Bonderite 61 Storage Tank	401 KAR 59:010
3-2 MMBTU/hr strip dryers	None
9. Space Heaters	
1-4.0 MMBTU/hr natural gas fired – Bldg. 770	None
1-3.0 MMBTU/hr natural gas fired – Bldg. 770	None
1-4.0 MMBTU/hr natural gas fired – Bldg. 513	None
1-2.5 MMBTU/hr natural gas fired – Bldg. 513	None
10. Miscellaneous	
2-16 gal Safety Kleen parts cleaners	None
3-30 gal Safety Kleen parts cleaners	None
2-34 gal Safety Kleen parts cleaners	None
7-44 gal Safety Kleen parts cleaners	None
11. Cooling Towers	
Main Clarification	None
Plant	None
Caster	None
12. Reservoir	None
13. Emergency Generators	
New Age, Model NTA855-G2 WW109T)	None
New Age, Model NTA855-G2 (WW110T)	None
New Age, Model NTA855-G2 (WW111T)	None
New Age, Model 6CTA8,3-G (WW112T)	None
14. B.O. Shop Department	
Desulfurization Raw Materials Handling	401 KAR 59:010

SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS

1. As required by Section 1b of the material incorporated by reference in 401 KAR 52:020, Section 10; compliance with annual emissions and processing limitations contained in this permit, shall be based on emissions and processing rates for any twelve (12) consecutive months.

2. Carbon monoxide, nitrogen oxides, particulate matter, sulfur dioxide, and VOC emissions, as measured by methods referenced in 401 KAR 50:015, Section 1, shall not exceed the respective limitations specified herein.

3. The emission points involved in the new construction (Revision 2) and their corresponding synthetic minor emission limits are:

   a. EP 111, Flare
   - i. Total particulate and PM_{10} emissions shall not exceed 2.06 tons/12 consecutive months.
   - ii. Sulfur dioxide emissions shall not exceed 0.0022 tons/12 consecutive months.
   - iii. Nitrogen dioxide emissions shall not exceed 0.0002 tons/12 consecutive months.
   - iv. Carbon monoxide emissions shall not exceed 18.14 tons/12 consecutive months.
   - v. Volatile organic compounds emissions shall not exceed 0.02 tons/12 consecutive months.

   b. EP 112, Cooling Tower
   - i. Total particulate and PM_{10} emissions shall not exceed 0.99 tons/12 consecutive months.
   - ii. Carbon monoxide emissions shall not exceed 13.88 tons/12 consecutive months.

   c. EP 113 & 114, Preheat Stations
   - i. Total particulate and PM_{10} emissions shall not exceed 0.10 tons/12 consecutive months.
   - ii. Sulfur dioxide emissions shall not exceed 0.03 tons/12 consecutive months.
   - iii. Nitrogen dioxide emissions shall not exceed 5.26 tons/12 consecutive months.
   - iv. Carbon monoxide emissions shall not exceed 4.42 tons/12 consecutive months.
   - v. Volatile organic compounds emissions shall not exceed 0.29 tons/12 consecutive months.

   d. EP 115, Alloy Transfer System & Vacuum Degasser

   Total particulate and PM_{10} emissions shall not exceed 2.92 tons/12 consecutive months.

SECTION E - SOURCE CONTROL EQUIPMENT REQUIREMENTS

1. Pursuant to 401 KAR 50:055, Section 2(5), at all times, including periods of startup, shutdown and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the division which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

SECTION F - MONITORING, RECORD KEEPING, AND REPORTING REQUIREMENTS

1. When continuing compliance is demonstrated by periodic testing or instrumental monitoring, the permittee shall compile records of required monitoring information that include:
   a. Date, place as defined in this permit, and time of sampling or measurements.
   b. Analyses performance dates;
   c. Company or entity that performed analyses;
   d. Analytical techniques or methods used;
   e. Analyses results; and
   f. Operating conditions during time of sampling or measurement.
   [Material incorporated by reference by 401 KAR 52:020, Section 1b (IV)1

2. Records of all required monitoring data and support information, including calibrations, maintenance records, and original strip chart recordings, and copies of all reports required by the Division for Air Quality, shall be retained by the permittee for a period of five years and shall be made available for inspection upon request by any duly authorized representative of the Division for Air Quality. [Material incorporated by reference by 401 KAR 52:020, Sections 1b(IV) 2 and 1a(8)]

3. In accordance with the requirements of 401 KAR 52:020 Section 3(1)h the permittee shall allow authorized representatives of the Cabinet to perform the following during reasonable times:
   a. Enter upon the premises to inspect any facility, equipment (including air pollution control quipment), practice, or operation;
   b. To access and copy any records required by the permit:
   c. Inspect, at reasonable times, any facilities, equipment (including monitoring and pollution control equipment), practices, or operations required by the permit. Reasonable times are defined as during all hours of operation, during normal office hours; or during an emergency.
   d. Sample or monitor, at reasonable times, substances or parameters to assure compliance with the permit or any applicable requirements.
   e. Reasonable times are defined as during all hours of operation, during normal office hours; or during an emergency.

4. No person shall obstruct, hamper, or interfere with any Cabinet employee or authorized representative while in the process of carrying out official duties. Refusal of entry or access may constitute grounds for permit revocation and assessment of civil penalties.

5. Summary reports of any monitoring required by this permit, other than continuous emission or opacity monitors, shall be submitted to the Regional Office listed on the front of this permit at least every six (6) months during the life of this permit, unless otherwise stated in this permit. For emission units that were still under construction or which had not commenced operation at the end of the 6-month period covered by the report and are subject to monitoring requirements in this permit, the report shall indicate that no monitoring was performed during the previous six months because the emission unit was not in operation.
   [Material incorporated by reference by 401 KAR 52:020, Section 1b (V)1.]

SECTION F - MONITORING, RECORD KEEPING, AND REPORTING REQUIREMENTS (CONTINUED)

6. The semi-annual reports are due prior to January 30th and July 30th of each year. Data from the continuous emission and opacity monitors shall be reported to the Technical Services Branch in accordance with the requirements of 401 KAR 59:005, General Provisions, Section 3(3). All reports shall be certified by a responsible official pursuant to 401 KAR 52:020 Section 23. All deviations from permit requirements shall be clearly identified in the reports.

7. In accordance with the provisions of 401 KAR 50:055, Section 1 the owner or operator shall notify the Regional Office listed on the front of this permit concerning startups, shutdowns, or malfunctions as follows:
   a. When emissions during any planned shutdowns and ensuing startups will exceed the standards notification shall be made no later than three (3) days before the planned shutdown, or immediately following the decision to shut down, if the shutdown is due to events which could not have been foreseen three (3) days before the shutdown.
   b. When emissions due to malfunctions, unplanned shutdowns and ensuing startups are or may be in excess of the standards notification shall be made as promptly as possible by telephone (or other electronic media) and shall cause written notice upon request.

8. The owner or operator shall report emission related exceedances from permit requirements including those attributed to upset conditions (other than emission exceedances covered by Section F.7. above) to the Regional Office listed on the front of this permit within 30 days. Other deviations from permit requirements shall be included in the semiannual report required by Section F.6. [Material incorporated by reference by 401 KAR 52:020, Section 1b V 3, 4.]

9. Pursuant to 401 KAR 52:020, Permits, Section 21, the permittee shall certify compliance with the terms and conditions contained in this permit, by completing and returning a Compliance Certification Form (DEP 7007CC) (or an alternative approved by the regional office) to the Regional Office listed on the front of this permit and the U.S. EPA in accordance with the following requirements:
   a. Identification of the term or condition;
   b. Compliance status of each term or condition of the permit;
   c. Whether compliance was continuous or intermittent;
   d. The method used for determining the compliance status for the source, currently and over the reporting period, and
   e. For an emissions unit that was still under construction or which has not commenced operation at the end of the 12-month period covered by the annual compliance certification, the permittee shall indicate that the unit is under construction and that compliance with any applicable requirements will be demonstrated within the timeframes specified in the permit.

SECTION F - MONITORING, RECORD KEEPING, AND REPORTING REQUIREMENTS (CONTINUED)

f. The certification shall be postmarked by January 30th of each year. Annual compliance certifications should be mailed to the following addresses:

Division for Air Quality
Ashland Regional Office
P.O. Box 1507
3700 13th Street
Ashland, Kentucky 41105-1507

U.S. EPA Region IV
Air Enforcement Branch
Atlanta Federal Center
61 Forsyth St.
Atlanta, GA 30303-8960

Division for Air Quality
Central Files
803 Schenkel Lane
Frankfort, KY 40601

10. In accordance with 401 KAR 52:020, Section 22, the permittee shall provide the division with all information necessary to determine its subject emissions within thirty (30) days of the date the KYEIS emission survey is mailed to the permittee.

11. Pursuant to Section VII.3 of the policy manual of the Division for Air Quality as referenced in 401 KAR 50:016, Section 1(1), results of performance test(s) required by the permit shall be submitted to the division by the source or its representative within forty-five days after the completion of the fieldwork.

SECTION G - GENERAL PROVISIONS

(a) General Compliance Requirements

1. The permittee shall comply with all conditions of this permit. Noncompliance shall be a violation of 401 KAR 52:020 and of the Clean Air Act and is grounds for enforcement action including termination, revocation and reissuance, revision or denial of a permit. [Material incorporated by reference by 401 KAR 52:020, Section 1a, 3]

2. The filing of a request by the permittee for any permit revision, revocation, reissuance, or termination, or of a notification of a planned change or anticipated noncompliance, shall not stay any permit condition. [Material incorporated by reference by 401 KAR 52:020, Section 1a, 6]

3. This permit may be revised, revoked, reopened and reissued, or terminated for cause in accordance with 401 KAR 52:020, Section 19. The permit will be reopened for cause and revised accordingly under the following circumstances:
   a. If additional requirements become applicable to the source and the remaining permit term is three (3) years or longer. In this case, the reopening shall be completed no later than eighteen (18) months after promulgation of the applicable requirement. A reopening shall not be required if compliance with the applicable requirement is not required until after the date on which the permit is due to expire, unless this permit or any of its terms and conditions have been extended pursuant to 401 KAR 52:020, Section 12;
   b. The Cabinet or the U. S. EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements;
   c. The Cabinet or the U. S. EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit;
   d. If any additional applicable requirements of the Acid Rain Program become applicable to the source. **[Acid Rain sources only**]

   Proceedings to reopen and reissue a permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of the permit for which cause to reopen exists. Reopenings shall be made as expeditiously as practicable. Reopenings shall not be initiated before a notice of intent to reopen is provided to the source by the division, at least thirty (30) days in advance of the date the permit is to be reopened, except that the division may provide a shorter time period in the case of an emergency.

3. The permittee shall furnish information upon requested by the cabinet to determine if cause exists for modifying, revoking and reissuing, or terminating the permit; or compliance with the permit. [Material incorporated by reference by 401 KAR 52:020, Section 1a, 7,8]

4. The permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such facts or corrected information to the permitting authority. [Material incorporated by reference by 401 KAR 52:020, Section 7(1)]

SECTION G - GENERAL PROVISIONS (CONTINUED)

6. Any condition or portion of this permit which becomes suspended or is ruled invalid as a result of any legal or other action shall not invalidate any other portion or condition of this permit. [Material incorporated by reference by 401 KAR 52:020, Section 1a, 14]

7. The permittee shall not use as a defense in an enforcement action the contention that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance. [Material incorporated by reference by 401 KAR 52:020, Section 1a, 4]

8. Except for requirements identified in this permit as state-origin requirements, all terms and conditions shall be enforceable by the United States Environmental Protection Agency and citizens of the United States. [Material incorporated by reference by 401 KAR 52:020, Section 1a, 15)b]

9. This permit shall be subject to suspension if the permittee fails to pay all emissions fees within 90 days after the date of notice as specified in 401 KAR 50:038, Section 3(6). [Material incorporated by reference by 401 KAR 52:020, Section 1a, 10]

10. Nothing in this permit shall alter or affect the liability of the permittee for any violation of applicable requirements prior to or at the time of permit issuance. [401 KAR 52:020, Section 11(3)(b)]

11. This permit does not convey property rights or exclusive privileges. [Material incorporated by reference by 401 KAR 52:020, Section 1a, 9]

12. Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits, licenses, or approvals required by the Kentucky Cabinet for Natural Resources and Environmental Protection or any other federal, state, or local agency.

13. Nothing in this permit shall alter or affect the authority of U.S. EPA to obtain information pursuant to Federal Statute 42 USC 7414, Inspections, monitoring, and entry. [401 KAR 52:020, Section 11(3)(d)].

14. Nothing in this permit shall alter or affect the authority of U.S. EPA to impose emergency orders pursuant to Federal Statute 42 USC 7603, Emergency orders. [401 KAR 52:020, Section 11(3)(a)]

15. This permit consolidates the authority of any previously issued PSD, NSR, or Synthetic minor source preconstruction permit terms and conditions for various emission units and incorporates all requirements of those existing permits into one single permit for this source

16. Permit Shield - A permit shield shall not protect the owner or operator from enforcement actions for violating an applicable requirement prior to or at the time of permit issuance. Compliance with the conditions of a permit shall be considered compliance with:
    (a) Applicable requirements that are included and specifically identified in the permit and
    (b) Non-applicable requirements expressly identified in this permit.

SECTION G - GENERAL PROVISIONS (CONTINUED)

(b) Permit Expiration and Reapplication Requirements

1. This permit shall remain in effect for a fixed term of five (5) years following the original date of issue. Permit expiration shall terminate the source's right to operate unless a timely and complete renewal application has been submitted to the division at least six months prior to the expiration date of the permit. Upon a timely and complete submittal, the authorization to operate within the terms and conditions of this permit, including any permit shield, shall remain in effect beyond the expiration date, until the renewal permit is issued or denied by the division. [401 KAR 52:020, Section 12]

2. The authority to operate granted shall cease to apply if the source fails to submit additional information requested by the division after the completeness determination has been made on any application, by whatever deadline the division sets. [401 KAR 52:030 Section 8(2)]

(c) Permit Revisions

1. A minor permit revision procedure may be used for permit revisions involving the use of economic incentive, marketable permit, emission trading, and other similar approaches, to the extent that these minor permit revision procedures are explicitly provided for in the SIP or in applicable requirements and meet the relevant requirements of 401 KAR 52:020, Section 14(2).

2. This permit is not transferable by the permittee. Future owners and operators shall obtain a new permit from the Division for Air Quality. The new permit may be processed as an administrative amendment if no other change in this permit is necessary, and provided that a written agreement containing a specific date for transfer of permit responsibility coverage and liability between the current and new permittee has been submitted to the permitting authority within ten (10) days following the transfer.

(d) Construction, Start-Up, and Initial Compliance Demonstration Requirements

1. Construction of process and/or air pollution control equipment authorized by this permit shall be conducted and completed only in compliance with the conditions of this permit.

2. Within thirty (30) days following commencement of construction and within fifteen (15) days following start-up and attainment of the maximum production rate specified in the permit application, or within fifteen (15) days following the issuance date of this permit, whichever is later, the permittee shall furnish to the Regional Office listed on the front of this permit in writing, with a copy to the division's Frankfort Central Office, notification of the following:
   a. The date when construction commenced.
   b. The date of start-up of the affected facilities listed in this permit.
   c. The date when the maximum production rate specified in the permit application was achieved.

SECTION G - GENERAL PROVISIONS (CONTINUED)

3. Pursuant to 401 KAR 52:020, Section 3(2), unless construction is commenced within eighteen (18) months after the permit is issued, or begins but is discontinued for a period of eighteen (18) months or is not completed within a reasonable timeframe then the construction and operating authority granted by this permit for those affected facilities for which construction was not completed shall immediately become invalid. Upon written request, the cabinet may extend these time periods if the source shows good cause.

4. For those affected facilities for which construction is authorized by this permit, a source shall be allowed to construct with the proposed permit. Operational or final permit approval is not granted by this permit until compliance with the applicable standards specified herein has been demonstrated pursuant to 401 KAR 50:055. If compliance is not demonstrated within the prescribed timeframe provided in 401 KAR 50:055, the source shall operate thereafter only for the purpose of demonstrating compliance, unless otherwise authorized by Section I of this permit or order of the cabinet.

5. This permit shall allow time for the initial start-up, operation, and compliance demonstration of the affected facilities listed herein. However, within sixty (60) days after achieving the maximum production rate at which the affected facilities will be operated but not later than 180 days after initial start-up of such facilities, the permittee shall conduct a performance test on the affected facilities in accordance with 401 KAR 50:055, General compliance requirements. ***These performance tests must also be conducted in accordance with General Provisions G(d)6 of this permit and the permittee must furnish to the Division for Air Quality's Frankfort Central Office a written report of the results of such a performance test.***

6. Terms and conditions in this permit established pursuant to the construction authority of 401 KAR 51:017 or 401 KAR 51:052 shall not expire.

7. Pursuant to Section VII 2.(1) of the policy manual of the Division for Air Quality as referenced by 401 KAR 50:016, Section 1.(1), at least one month prior to the date of the required performance test, the permittee shall complete and return a Compliance Test Protocol (Form DEP 6027) to the division's Frankfort Central Office. Pursuant to 401 KAR 50:045, Section 5, the division shall be notified of the actual test date at least ten (10) days prior to the test.

(e) Acid Rain Program Requirements

1. If an applicable requirement of Federal Statute 42 USC 7401 through 7671q (the Clean Air Act) is more stringent than an applicable requirement promulgated pursuant to Federal Statute 42 USC 7651 through 7651o (Title IV of the Act), both provisions shall apply, and both shall be state and federally enforceable.

SECTION G - GENERAL PROVISIONS (CONTINUED)

(f) Emergency Provisions

1. Pursuant to 401 KAR 52:020 Section 24(1), an emergency shall constitute an affirmative defense to an action brought for the noncompliance with the technology-based emission limitations if the permittee demonstrates through properly signed contemporaneous operating logs or relevant evidence that:
   a. An emergency occurred and the permittee can identify the cause of the emergency;
   b. The permitted facility was at the time being properly operated;
   c. During an emergency, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit; and
   d. Pursuant to 401 KAR 52:020, 401 KAR 50:055, and KRS 224.01-400, the permittee notified the Division and submitted written notice of the emergency within ten (10) days to the Division when emission limitations are exceeded due to an emergency. The notice shall include a description of the emergency, steps taken to mitigate emissions, and corrective actions taken.
   e. This requirement does not relieve the source from other local, state or federal notification requirements.

2. Emergency conditions listed in General Condition (f)1 above are in addition to any emergency or upset provision(s) contained in an applicable requirement. [401 KAR 52:020, Section 24(3)]

3. In an enforcement proceeding, the permittee seeking to establish the occurrence of an emergency shall have the burden of proof. [401 KAR 52:020, Section 24(2)]

(g) Risk Management Provisions

1. The permittee shall comply with all applicable requirements of 401 KAR Chapter 68, Chemical Accident Prevention, which incorporates by reference 40 CFR Part 68, Risk Management Plan provisions. If required, the permittee shall comply with the Risk Management Program and submit a Risk Management Plan to:

   RMP Reporting Center
   P.O. Box 3346
   Merrifield, VA, 22116-3346

2. If requested, submit additional relevant information to the division or the U.S. EPA.

(h) Ozone depleting substances

1. The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in Subpart B:
   a. Persons opening appliances for maintenance, service, repair, or disposal shall comply with the required practices contained in 40 CFR 82.156.

SECTION G - GENERAL PROVISIONS (CONTINUED)

b. Equipment used during the maintenance, service, repair, or disposal of appliances shall comply with the standards for recycling and recovery equipment contained in 40 CFR 82.158.
c. Persons performing maintenance, service, repair, or disposal of appliances shall be certified by an approved technician certification program pursuant to 40 CFR 82.161.
d. Persons disposing of small appliances, MVACs, and MVAC-like appliances (as defined at 40 CFR 82.152) shall comply with the recordkeeping requirements pursuant to 40 CFR 82.166
e. Persons owning commercial or industrial process refrigeration equipment shall comply with the leak repair requirements pursuant to 40 CFR 82.156.
f. Owners/operators of appliances normally containing 50 or more pounds of refrigerant shall keep records of refrigerant purchased and added to such appliances pursuant to 40 CFR 82.166.

2. If the permittee performs service on motor (fleet) vehicle air conditioners containing ozone-depleting substances, the source shall comply with all applicable requirements as specified in 40 CFR 82, Subpart B, Servicing of Motor Vehicle Air Conditioners.

SECTION H - ALTERNATE OPERATING SCENARIOS

None

SECTION I - COMPLIANCE SCHEDULE

None